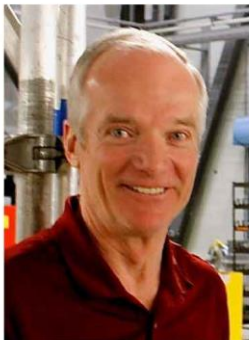


— LATEST BRIEFING —

Big Takeaways from Colorado Springs Convention



by Charlie Precourt, CJP Safety Committee Chairman

We had another great convention in September breaking records for attendance and continuing to make great headway on a number of our safety initiatives. Plus, 63 of you achieved the Gold Standard Safety Award this year - congratulations to each of you! I look forward to even bigger numbers next year, and as you'll see in this edition of Right Seat, there's plenty of motivation now for each of us to pursue the award.

Insurance Premiums

I'll summarize some of the Safety Standdown from the convention, but I first want to highlight the impact of several recent light jet accidents on our insurance premiums. This was the major convention takeaway for me. A few of our members shared their own renewal nightmares during sidebar conversations. One was a premium jump from about \$15,000 to over \$90,000 per year! Ouch! Addressing this will be the major focus of our efforts for 2020, and there is a lot we can do to control our destiny here - particularly when you look at our members as a distinct risk pool from the rest of the light jet community. Even better, being a Gold Standard Safety Award recipient is a great way to influence the underwriters.

One of our first actions to gain insight into this problem was to post a survey shortly after the convention. Of our members who responded (nearly 150), only 2 percent reported having any insurance claims in the last five years, and those claims totaled only \$25,000! We obviously will need to get more granular on the nature of claims the underwriters are carrying, and show them how our initiatives like the Gold Standard program, Standard Operating Practices (SOPs), regional events and annual convention Safety Standdown support a lower risk pool of pilots when it comes to underwriting our policies.

We also gained insight into insurance losses at the NBAA convention last month in Las Vegas. I spoke at the NBAA Single Pilot Safety Standdown, and Stuart Fred represented CJP on a panel with several other type clubs, which highlighted the leadership position CJP is taking to address safety in single-pilot operations. Insurance underwriters and brokers presented data on the main drivers of the premiums issue. In short, the U.S. aviation insurance market's profit from 2014 through 2016 was nearly \$350 million. But in 2017 and 2018, they had losses hitting \$260 million. A truly disappointing turnabout (see the below chart). Of the top 14 underwriters for 2018, only two reported a profit, with one suffering losses over \$50 million in that year. Several are leaving the market as a result.

They also showed ten major claims over the last three years, which included five Citations. Among them were the Lake Erie CJ4 and the Citation 560 loss of control in Atlanta shortly after takeoff, both of which have been discussed at length in our CJP safety sessions. Of particular note, wrongful death payouts have averaged \$7 million per passenger. The top causes for fatalities are loss of control in-flight (30 percent) and runway excursions and undershoot/overshoot (22 percent). Additionally, the majority of the LOC accidents were in the terminal area (takeoff or approach). So, our focus on these causes is exactly where it needs to be.



With the insurance situation as a backdrop, here's a summary and major takeaways from our work at the CJP Convention Safety Standdown (the full presentation is available on the CJP "Safety" webpage).

Safety Standdown Summary

Citation Accident Review: Peter Basile of Textron Aviation opened with a review of eight Citation accidents, including the Atlanta Citation 560 loss of control fatal accident after takeoff and the CJ2+ high altitude LOC in France. We presented "What Good Looks Like" videos on both of these scenarios that you can review on our Safety webpage.

Takeaways: For the low altitude case (i.e., Citation 560 in Atlanta - as well as the CJ4 in Cleveland), we recommend the use of Pitch mode in the autopilot after takeoff when the

initial clearance level off altitude is less than approximately 3,000 feet AGL. Use of FLC for low altitude initial level offs will result in excessively high climb rates. Instead, stay in TO mode (pitch) and reduce power, which will limit climb angle/climb rate. Our SOPs call for no more than 1,000 fpm vertical speed in the last 1,000 feet before any level off. For the high altitude LOC (CJ2+ in France), distraction while in VS climb mode at high altitude led to a stall and structural overload with severe aircraft damage. Our SOPs call for a preference to use pitch mode or FLC instead of VS at high altitudes to preclude inadvertent stall if the vertical speed select is too high for the conditions.

Trim Runaway Case Study: Peter also presented a CJ1 trim runaway accident that resulted in ditching the aircraft when the crew could not regain proper trim. This accident happened in 2003 and was the result of a stuck forward trim relay. The crew disconnected the autopilot but did not complete the procedure by pulling the trim circuit breaker, which would have unpowered the relay and returned control of the manual trim. As a result of this “stuck” full forward trim scenario, Textron removed the relays from the circuit card, which were deemed unnecessary (the split trim switch on the yoke now drives the trim motor directly, eliminating the stuck relay failure mode). We suspect as a result of this accident, some simulator instructors began to teach an alternative procedure to pull the trim circuit breaker FIRST, leaving the autopilot to fight the out-of-trim condition. Many of our members have been trained in this unofficial “technique,” so we investigated its validity with both Textron and FlightSafety. After an extensive review, neither Textron nor Flight Safety endorses this alternative procedure as it has been shown through flight test to be unwarranted.

Takeaways: For trim runaway situations, both Textron and FlightSafety advise adhering to the emergency/abnormal procedures as written. Generally, this is the red button first - autopilot disconnect - then throttles, speed brakes, manual trim as required, and finally pull the circuit breaker for the trim motor (to preclude recurrence). The full procedure varies a bit by model, but none call for the circuit breaker first. Their rationale for not recommending the “circuit breaker first” alternative is as follows:

- a. The alternative initially was thought to address a failure mode that no longer exists after modification of the fleet (relay removal).
- b. Pulling the circuit breaker first introduces a nonstandard approach that may not be appropriate for all trim scenarios, requiring more time and analysis by the pilot to choose to apply it. The red button is always appropriate and is the quickest response.
- c. The “circuit breaker first” will not work in the CJ4 as it would remove power from the backup electric trim.
- d. The premise of “circuit breaker first” is that the autopilot is assumed to be capable of holding against the trim force and keep the aircraft stable. However, a set of tests in flight in a CJ1+ showed that with only one-third of full-forward trim, the autopilot was overpowered by the trim and caused a pitch down. It is suspected this is what happened to the accident aircraft.

Fortunately, trim runaway is a highly unlikely failure mode, particularly now that the circuit logic has been improved. But obviously, the consequences can be high should it ever occur. We recommend a regular revisit of the procedure in your simulator recurrent training so the response becomes natural.

Circling Discussion: Neil Singer presented circling scenarios along with “What Good Looks Like” videos we created with David Miller, using the Teterboro Learjet accident as a reference.

Takeaway: Our SOPs recommend increased minimums (above published) for circling to provide more margin in real-life scenarios (see SOPs on our Safety webpage).

Contaminated Runways: Neil and David also created a video for dealing with contaminated runways. Our SOPs recommend methods for ensuring we have adequate margins on landing.

Takeaway: In addition to the SOPs that address takeoff and landing performance planning, we also introduced the Inflight Guide this year. The guide is intended to be a quick reference source for all kinds of information that is not needed often but useful to have handy. Among the topics covered are references for contaminated runway performance for our Citations and a cross-link to the FAA's Runway Condition Assessment Matrix. Copies of the Inflight Guides are available in pdf on our Safety webpage. Our members in attendance provided input for enhancing the content, which has been incorporated in Edition 2. We will mail a hard copy booklet to anyone who would like one just by sending us an e-mail to safety@citationjetpilots.com.

Net Jets Presentation: Rob Switz of Net Jets gave a great presentation on how their flight department manages flight risks, SOPs and training. He showed how they use both FOQA (Flight Operations Quality Assurance) and FRAT (Flight Risk Assessment Tool). FOQA is a means to collect aggregated flight tracking and performance data across the fleet to see where issues may be arising and help get notices out to the pilots to avoid trends that increase flight risks. Most of us have seen FRAT tools, and Rob shared the NBAA's Risk Assessment tool that Netjets has implemented.

Takeaways: At CJP, we plan to explore how to employ FOQA and FRAT in an automated, easy to use fashion for our members, as it would be another means to discriminate our members as a low-risk pool for our underwriters. Development of these tools will be part of our 2020 focus.

Rob also discussed stabilized approaches and noted that NetJets uses a definition (from Flight Safety Foundation's ALAR 7.1) that says stabilized approach speed should be no lower than V_{ref} . Other references for stabilized approaches use $V_{ref} - 5$ knots as the minimum, which is what we chose for our CJP SOPs. This is a judgment call, but our CJP position was that $V_{ref} - 5$ is a safe airspeed as it still provides a good 15 percent margin over stall, and it would avoid go-around calls whenever speed gets slightly below V_{ref} .

Training Update: Jack Tessman of Flight Safety Textron Aviation Training (FSTAT) gave us an update on all that's transpiring with the new merger of FSI and TRU simulator training for Textron aircraft. Of particular note, FSTAT has committed to several initiatives that will benefit us. This includes online ground school, plus a hybrid option of online and in-class ground school. They are also establishing a program where their instructors can fly the line, which would enable them to fly with us in our aircraft at the completion of a recurrent. More on this in the near future. (Be sure to see the attached note from Trent Corcia and a survey about their simulator training initiatives).

Accident Review: Finally, former NTSB inspector Greg Feith gave us a great set of briefings on several accidents with insights we don't get directly from many NTSB reports. In particular, he covered an accident involving a commercial cargo aircraft crew that had an excessively long crew duty day (nearly 24 hours!). The chain of events leading up to the accident was full of great lessons. Many of our members commented that we should look more at pilot health issues in future content for our Standdown, so that is something we will pursue next year. His full briefing can be found on our Safety webpage. Greg also recently initiated a regular podcast that is available to anyone. Details are in the final article in this issue of Right Seat.

Fly safe!

Charlie

Additional CJP Gold Standard Safety Award Training Events

by Andrew Broom, CEO of CJP

It has been three years since the CJP Safety Committee established the Gold Standard Safety award facilitating enrichment training for CJP members. Earlier this year, CJP silver partner Flight Research conducted a Citation-specific upset recovery course, and more recently, CJP platinum partners Collins Aerospace and Garmin hosted CJP members at their headquarters for avionics training.

August: Rockwell Collins Pro Line 21 and Fusion Training in Cedar Rapids, Iowa

For the second time in two years, Collins Aerospace hosted a group of members at its headquarters for an avionics training event. The event kicked off with a welcome dinner in downtown Cedar Rapids and opening discussion with Collins Aerospace President of Avionics, Steve Timm. During the event, attendees also received a task saturation-spatial disorientation presentation by Erik Eliel, hands-on training, group discussions and a tour of the facility.



September: Garmin GTN, G1000 and G3000 Training in Olathe, Kansas

A couple of weeks following the CJP Convention in September, Garmin held their second training event for CJP members at its headquarters in Olathe, Kansas. The event began with a welcome dinner sponsored by CJP patron partner QS Partners, with Garmin leadership in attendance, including Executive Vice President and Managing Director Phil Straub. The next day, attendees participated in “new features” training and hands-on avionics training for the G3000, G1000 NXi and GTN.



We thank Collins Aerospace and Garmin for hosting CJP members. Even the most seasoned and well-versed CJP members walked away from the training saying that they learned something new. Stay tuned for additional training events in 2020.

A Message from FlightSafety Textron Aviation Training

**FlightSafety
Textron Aviation**

*By Trent J. Corcia, Product Director at
FSTAT*

TRAINING

As we greatly value our Platinum Partnership with CJP, all of us at FlightSafety Textron Aviation Training appreciate the friendships and close working relationships that we have with the CJP members and CJP leadership. Today, we are asking all CJP members to fill out this two-minute survey, as we want to hear your voice and better serve your avionics training needs. Your information will help us plan upgrades to our simulators and courseware to best serve the needs of all CJP members. Thank you in advance for your feedback and comments.

Let us hear from you by clicking [here](#) or the “Start Survey” button below.

[Start Survey](#)

Introducing a New Podcast Series Focused on Aviation Safety

In September, well-known aviation safety experts John Goglia and Gregory Feith announced a new podcast series dedicated to discussing a wide range of aviation issues. Titled “Flight Safety Detectives,” Goglia and Feith use their insider knowledge and past NTSB experience to

talk about technical aspects of aviation incidents and accidents, as well as the politics and policies occurring behind the scenes.

Many of you probably recognize Greg Feith as he has presented accident reviews at recent CJP conventions. Feith is a former NTSB Senior Air Safety Investigator who has more than 40 years of aviation safety experience. For two decades, he served as the Investigator-In-Charge or U.S. Accredited Representative for numerous high-profile aircraft accidents. He has investigated more than 2,500 aircraft accidents worldwide.

John Goglia has more than 60 years in the aviation safety business. He is the only airframe and powerplant mechanic to get a presidential appointment as an NTSB Board member where he spent nearly a decade leading major aviation investigations. Goglia is also an active speaker and writer, as well as chairman of the Professional Aviation Maintenance Association (PAMA).

Many podcast episodes are already available and highlight topics like the Boeing 737 MAX, regulatory aspects of maintaining an aircraft, everyday issues affecting general aviation pilots and more. The series can be found at flightsafetydetectives.com and on many podcast apps.



Citation Jet Pilots is the world's premier Cessna Citation aircraft owner-pilot organization. If you are a Citation owner-pilot who wants to operate your aircraft more safely, professionally, and economically, this is the place to be.